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SALT

Common salt, sodium chloride, is such a familiar commodity that people tend to take it for granted. In modern life it is scarcely possible to avoid contact with salt, the products of salt, or things in the preparation of which salt has played a part. It is an indispensable article in the diet of man and animals, yet less than five percent of the United States production is consumed in the home. Salt is the basic chemical raw material from which most sodium and chlorine compounds are made. It has in addition hundreds of other commercial applications, including the preserving of food and ice control.

Salt costs only a few cents per pound, but consumers demand a product of rigid specifications. Refined salt has a purity of over 99.9 percent, while even most of the crude salt produced in California is more than 99 percent pure.

The California salt industry is centered on the southeast shore of San Francisco Bay where the Leslie Salt Company obtains salt from sea water in one of the world's largest solar evaporation plants. Much smaller amounts are produced at other points on the California coast and from certain dry lakes in the California desert. The California production of salt exceeded one million tons in 1951. With a value of more than $5 million it equaled five percent of the total United States production of salt.

Geologic occurrence

Halite, the natural sodium chloride, has perfect cubic cleavage, a hardness of 2.5 and a specific gravity of 2.1 to 2.6. The pure mineral is transparent to translucent and colorless or white, but impure halite may be gray or various shades of yellow, brown, or red. It occurs as crystals with cubic habit or as granular masses called rock salt. The melting point is about 800° C., and at about 1440° C. the liquid vaporizes without decomposition. Pure halite is not appreciably hygroscopic; but commercial salt, which contains traces of other chlorides, readily absorbs moisture from the air. Halite is among the most soluble of the common minerals.

Salt, because of its great solubility, is present to some degree in almost all natural water. Sea water is essentially a 3.5 percent solution of several salts of which a little more than 77 percent is sodium chloride. The waters of some undrained desert basins are high in salt, while salt springs and wells are to be found in regions having humid climates as well as in the desert.

Ponds for solar evaporation of salt at Western Salt Company works, Chula Vista.

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